

**Chad Calvert,
Deputy Assistant Secretary for Land and Minerals Management,
United States Department of the Interior**

**Testimony
Before the Committee on Resources,
Subcommittee on Energy and Mineral Resources
United States House of Representatives**

**Oversight Hearing
The Vast North American Resource Potential of Oil Shale, Oil Sands and Heavy Oils – Part 2**

June 30, 2005

Mr. Chairman and Members of the Committee, thank you for the opportunity to appear here today to discuss the Bureau of Land Management's (BLM) efforts to facilitate and promote oil shale research and development on public lands.

America faces an energy challenge. As recently as April 5, 2005, Federal Reserve Chairman Alan Greenspan commented extensively on this challenge. He stated,

"Markets for oil and natural gas have been subject to a degree of strain over the past year not experienced for a generation. Increased demand and lagging additions to productive capacity have combined to absorb a significant amount of the slack in energy markets that was essential in containing energy prices between 1985 and 2000."

For a considerable time, many have believed that oil shale, if economic, has the potential to be a major source of domestic energy production, especially since it is suited for refinement as jet fuel for the military and the airline industry. Recently, the BLM, which has the authority to issue leases for oil shale under the Mineral Leasing Act and to receive rental payments and royalties, has received expressions of interest from industry for conducting research and development projects on public lands in the Green River Formation in the tri-state area of Colorado, Utah and Wyoming. It is BLM's hope that renewed interest in oil shale research and development efforts will lead to environmentally responsible ways of unlocking the vast oil shale resources contained in the United States, and presents a potential means of helping to reduce the imbalance in domestic energy consumption and production that currently exists in this country.

Background

Oil shale is a type of rock formation that contains large concentrations of combustible organic matter. When processed, oil shale can yield significant quantities of shale oil. Various methods of processing oil shale to remove the oil have been developed. A common element among those methods is the use of heat to separate out the oil from the rock.

The United States has significant oil shale resources, primarily within the Green River Formation in Wyoming, Utah and Colorado. These oil shale resources underlie a total area of 16,000 square miles and represent the largest known concentration of oil shale in the world. Federal lands comprise roughly 72% of the total oil shale acreage in the Green River Formation.

In the latter years of World War II, several tests were conducted to determine the economic viability of oil shale extraction technologies. However, in the years following World War II, petroleum producers looked to more easily accessible and economically viable supplies and interest in oil shale extraction declined. More recently, during the mid 1970s through the late 1980s, the Department of the Interior and the BLM made oil shale resources on public lands available through the Oil Shale Prototype Program, which was designed to allow companies to develop and refine the technology for extracting oil from oil shale. Additionally, in the 1980's, the U.S. Geological Survey (USGS) had an active oil shale mapping program,

which mapped the major oil shale fields of the United States and conducted geological research on the Green River deposits. The USGS also conducted mineralogical and geochemical studies aimed toward characterizing oil shale for the commercialization of this resource.

Precipitated by the oil price spikes of the early 1970s, companies showed significant interest in exploring domestic oil shale development. Previous oil shale research showed that it was possible to extract shale oil from the rock; however, despite government subsidies, the extraction process was energy-intensive and costly. Through a series of experiments, industry attempted to find more effective ways to extract shale oil from oil shale rock, but the easing and subsequent collapse in petroleum prices led the companies to conclude that production was not economically viable. The participants in the Oil Shale Prototype Program withdrew from their research efforts before the BLM could promulgate permanent regulations for oil shale leasing and operation.

Most USGS activities related to this commodity have also diminished significantly. However, since the latter half of the 1980s, the USGS has maintained a small effort in oil shale studies, both domestically and abroad, which included evaluation of world oil shale resources and a cooperative effort funded by the Department of Energy to create a National Oil Shale Database, in which shale oil analyses and other data were entered and compiled. With the recognition that oil shale is a potentially important domestic fossil energy resource, the USGS has continued in these efforts to the present day. Although no comprehensive oil shale assessment has been done, the USGS has completed oil shale resource studies on some of the most promising areas. One example of this is "Thickness, oil-yield, and kriged resource estimates for the Eocene Green River Formation, Piceance Creek basin, Colorado" USGS Oil and Gas Investigations Chart OC-132. Another example is USGS Open-File Report 91-0285 "Oil-Shale Resources of the Mahogany Zone in eastern Uinta Basin, Uintah County, Utah." USGS is currently working with the State of Utah to evaluate all oil shale lands in the eastern Uinta Basin, compiling, among other things, geologic maps, cross sections, geophysical and lithologic logs, and drill hole information.

Elsewhere in the world, efforts continue to harness oil shale resources. For example, in Gladstone, Queensland, Australia, there is a large-scale demonstration project where, from June 2001 through March 2003, 703,000 barrels of oil, 62,860 barrels of light fuel oil, and 88,040 barrels of ultra-low sulphur naphtha were produced from oil shale. In January 2003 alone, the operation produced 79,000 barrels of oil. Significant oil shale reserves also exist in the Republic of Estonia, where active oil shale deposits amount to about 9.2 billion barrels of oil.

Current BLM Efforts

The President's National Energy Policy outlined a number of recommendations to diversify and increase energy supplies, encourage conservation, and ensure environmentally responsible production and distribution of energy. In response, the BLM developed a plan containing 54 tasks designed to implement the President's directives, including efforts to promote the development of oil shale resources on the public lands. To carry out this task in an environmentally responsible manner, and in keeping with our multiple-use mandate, the BLM established its own Oil Shale Task Force.

The Oil Shale Task Force was established to address: 1) access to unconventional resources (such as oil shale) on public lands; 2) impediments to oil shale development on public lands; 3) industry interest in research and development and commercial development opportunities on the public lands; and; 4) Secretarial options to capitalize on the opportunities. The Task Force has prepared a report concerning the development of oil shale resources on Federal lands in order to determine whether technological advances have reached the point where it is possible to develop those resources economically and in an environmentally responsible manner.

On November 22, 2004, the BLM published a proposed oil shale lease form and request for information in the Federal Register to solicit comments and suggestions from interested parties about the design of the oil shale leasing program. The report recommendations and BLM's analysis of the responsive comments to the Federal Register notice led to the design of an Oil Shale Research, Development and Demonstration (RD&D) program.

BLM published a new, final oil shale lease form in the Federal Register on June 9, 2005, and invited interested parties, from June 9, 2005 through September 7, 2005, to nominate public lands for oil shale RD&D activities. The nominations must be accompanied by a non-refundable application fee of \$2,000. The RD&D lease program design allows tracts of land up to 160 acres to be used to demonstrate the economic feasibility of today's technologies over a lease term of ten years, with the option for an extension of up to five years. The payment of royalties will be waived during the RD&D lease, payment of rental will be waived for the first 5 years of the RD&D lease, and an applicant may identify up to an additional contiguous 4960 acres that it requests be reserved for a preference right commercial lease should RD&D efforts prove successful in demonstrating the economic feasibility of oil shale production.

One of the principal reasons to offer small RD&D leases before issuing commercial leases for oil shale is to obtain a better understanding of the environmental effects of the new technologies and the effectiveness of various mitigation measures. Consequently, given the small scale of the RD&D leases, BLM has determined that for environmental review under NEPA, site-specific environmental assessments (EAs) would be more appropriate than a programmatic environmental impact statement (EIS) document. The complexity of the analysis required for the RD&D lease will depend on the location, the type of project proposed, and the type of technology to be used.

Conclusion

Thank you for the opportunity to testify today about the BLM's Oil Shale Development efforts. I would be happy to answer any questions you have.